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COMMITTEE ON THE PEACEFUL USES
OF OUTER SPACE
Scientific and Technical Subcommittee
Thirtieth session
Agenda item 16

DRAFT REPORT OF THE SCIENTIFIC AND TECHNICAL SUBCOMMITTEE ON THE WORK OF ITS THIRTIETH SESSION

INTRODUCTION

1. The Scientific and Technical Subcommittee of the Committee on the Peaceful Uses of Outer Space held its thirtieth session at United Nations Headquarters from 16 to 26 February 1993 under the chairmanship of Professor J. H. Carver (Australia).

2. Representatives of the following Member States attended the session: Argentina, Australia, Austria, Belgium, Benin, Brazil, Bulgaria, Burkina Faso, Canada, Chile, China, Colombia, Czech Republic, Ecuador, Egypt, France, Germany, Greece, Hungary, India, Indonesia, Iran (Islamic Republic of), Iraq, Italy, Japan, Kenya, Lebanon, Mexico, Mongolia, Morocco, Netherlands, Nigeria, Pakistan, Philippines, Poland, Romania, Russian Federation, Sierra Leone, Spain, Sweden, Syrian Arab Republic, Ukraine, United Kingdom of Great Britain and Northern Ireland, United States of America, Uruguay, Venezuela and Viet Nam.

3. Representatives of the Department of Economic and Social Development, the Office of Legal Affairs, the United Nations Environment Programme and the United Nations Development Programme of the United Nations Secretariat attended the session.

4. Representatives of the following specialized agencies attended the session: Food and Agriculture Organization of the United Nations (FAO), United Nations Educational, Scientific and Cultural Organization (UNESCO), International Telecommunication Union (ITU) and World Meteorological Organization (WMO).

5. Representatives of the European Space Agency (ESA), the International Telecommunications Satellite Organization (INTELSAT), the Committee on Space Research (COSPAR) of the International Council of Scientific Unions (ICSU), the International Astronautical Federation (IAF) and the International Society for Photogrammetry and Remote Sensing (ISPRS) also attended the session.

6. A list of the representatives of Member States, specialized agencies and other international organizations attending the session is contained in document A/AC.105/C.1/INF/22.

7. On 16 February, the Subcommittee adopted the following agenda:

1. Adoption of the agenda.

2. Statement by the Chairman.

3. General exchange of views.

4. United Nations Programme on Space Applications and the coordination of space activities within the United Nations system.

5. Implementation of the recommendations of the Second United Nations Conference on the Exploration and Peaceful Uses of Outer Space (UNISPACE 82).

6. Matters relating to remote sensing of the Earth by satellites, including, inter alia, applications for developing countries.

7. Use of nuclear power sources in outer space.

8. Questions relating to space transportation systems and their implications for future activities in space.

9. Examination of the physical nature and technical attributes of the geostationary orbit; examination of its utilization and applications, including, inter alia, in the field of space communications, as well as other questions relating to space communications developments, taking particular account of the needs and interests of developing countries.

10. Matters relating to life sciences, including space medicine.

11. Progress in national and international space activities related to the Earth environment, in particular progress in the geosphere-biosphere (global change) programme.

12. Matters relating to planetary exploration.

13. Matters relating to astronomy.

14. The theme fixed for special attention at the 1993 session of the Scientific and Technical Subcommittee: "Space-based communication: the expansion of current services and increased understanding of new systems and the services they will make possible".

15. Other matters.

16. Report to the Committee on the Peaceful Uses of Outer Space.

Meetings and documentation

8. The Subcommittee held ____ meetings.

9. A list of the documents which were before the Subcommittee is provided in annex I to the present report.

10. Following the adoption of the agenda, the Chairman made a statement outlining the work of the Subcommittee at its current session. He also reviewed the activities of Member States in the field of space exploration, including important advances that had been achieved as a result of international cooperation during the past year.

11. At the 417th, 418th, 421st, 422nd and 423rd meetings, the Chairman informed the Subcommittee that requests had been received from the permanent representatives of Bolivia, Costa Rica, Kazakhstan, Libyan Arab Jamahiriya, Portugal and Turkey, as well as from the Permanent Observer for the Holy See, to attend the session. Following past practice, those delegations were invited to attend the current session of the Subcommittee and to address it as appropriate. This was without prejudice to further requests of that nature and did not involve any decision of the Subcommittee concerning status, but was a courtesy that the Subcommittee extended to those delegations.

12. General statements were made by the following delegations: Argentina, Austria, Brazil, Canada, Chile, China, France, Germany, Hungary, India, Indonesia, Morocco, Nigeria, Pakistan, Poland, Russian Federation, Sweden, United Kingdom and Uruguay. General statements were also made by the representatives of COSPAR, IAF, ISPRS and INTELSAT.

13. At the 417th meeting, the Chief of the Office for Outer Space Affairs made a statement reviewing the work programme of the Office. At the 421st meeting, the Expert on Space Applications made a statement outlining the activities carried out and planned under the United Nations Programme on Space Applications.

Technical presentations

14. In accordance with paragraph 8 (b) (vii) of General Assembly resolution 47/67 of 14 December 1992, a symposium on the theme "Space-based communication: the expansion of current services and increased understanding

of new systems and the services they will make possible" was organized by COSPAR and IAF to complement discussions within the Subcommittee on the special theme. The symposium was co-chaired by Mr. George Ohring, Chairman of the COSPAR Commission on Space Studies of the Earth's Surface, Meteorology and Climate, and Mr. Dale Fester, Vice President, IAF. The presentations included: "The Changing Environment for Global Communications" by Mr. Richard C. Kirby, Director, International Radio Consultative Committee, ITU; "The Changing Dynamics at INTELSAT" by Mr. D. K. Sachdev, Director, Communications Engineering and System Planning, INTELSAT; "The Changing Dynamics at INMARSAT" by Mr. Jai Singh, General Manager, Project 21, INMARSAT; "The Movement to Global Personal Communications Services" by Mr. Peter Swan, Manager, Systems Engineering, Motorola; "Disaster Mitigation: The Critical Communication Link" by Mr. Ray J. Arnold, Acting Director for Commercial Innovation and Competitiveness, Office of Advanced Concepts and Technology, National Aeronautics and Space Administration (NASA), United States; "Telemedicine for the Globe: The West African Case Study" by astronaut Mae C. Jemison, NASA; "Satellite Communications for Development" by Mr. Oetarjo Diran, Deputy Chairman, National Institute of Aeronautics and Space (LAPAN), Indonesia; and "Satellite Communications in China" by Prof. Yiyuan Chen, Chief Engineer, Institute of Space Technology, Ministry of Aeronautics and Space, China.

15. In response to General Assembly resolution 47/67, Mr. Hugues Laporte-Weywada of the Directorate of Launchers, Centre National d'Etudes Spatiales, France, made a special presentation on the complex issue of space debris and the solutions currently being adopted at the national level, taking into account the work performed within the ad hoc working group of experts of IAF on the issue.

16. During the course of the session, scientific and technical presentations were made by Astronaut Mae C. Jemison, NASA, on human space flight; by Mr. V. V. Alaverdov, First Deputy Head, Russian Space Agency, on the activities of the Russian Space Agency; by Mr. Mouslim Kabbaj, Director, Royal Centre for Remote Sensing, Morocco, on "Remote Sensing for Groundwater Applications"; by Dr. Janis Stoklosa, Manager, Space Human Factors Program, NASA, on "Putting Humans in Space, Helping People on Earth"; by Dr. Cherilyn Morrow, Visiting Senior Scientist, NASA Astrophysics Division, on "Astronomy and Astrophysics"; by Ms. Corinne Buoni, Senior Technology Analyst, Solar Exploration Division, NASA, on "Solar System Exploration", and by Mr. Noah Samara, Chief Executive, Afrispace, on "Radio Broadcasting Services for Africa: Emerging Developments".

Recommendations of the Scientific and Technical Subcommittee

17. After considering the various items before it, the Subcommittee, at its ____th meeting, on 26 February 1993, adopted its report to the Committee on the Peaceful Uses of Outer Space containing its views and recommendations as set out in the paragraphs below.

I. UNITED NATIONS PROGRAMME ON SPACE APPLICATIONS AND THE COORDINATION OF SPACE ACTIVITIES WITHIN THE UNITED NATIONS SYSTEM

II. IMPLEMENTATION OF THE RECOMMENDATIONS OF THE SECOND UNITED NATIONS CONFERENCE ON THE EXPLORATION AND PEACEFUL USES OF OUTER SPACE

18. In accordance with General Assembly resolution 47/67, the Subcommittee continued its consideration of these items. In accordance with past practice, the Subcommittee considered the two items jointly.

19. The Subcommittee noted that the General Assembly, in paragraph 14 of resolution 47/67, had once again emphasized the urgency and importance of implementing fully the recommendations of the Second United Nations Conference on the Exploration and Peaceful Uses of Outer Space (UNISPACE 82) as early as possible. The Subcommittee also took note of paragraph 9 of the same resolution, in which the General Assembly considered that, in the context of the Subcommittee's consideration of the item, it was particularly urgent to implement the following recommendations:

"(a) All countries should have the opportunity to use the techniques resulting from medical studies in space;

"(b) Data banks at the national and regional levels should be strengthened and expanded and an international space information service should be established to function as a centre of coordination;

"(c) The United Nations should support the creation of adequate training centres at the regional level, linked, whenever possible, to institutions implementing space programmes; necessary funding for the development of such centres should be made available through financial institutions;

"(d) The United Nations should organize a fellowship programme through which selected graduates or postgraduates from developing countries should get in-depth, long-term exposure to space technology or applications; it is also desirable to encourage the availability of opportunities for such exposure on other bilateral and multilateral bases outside the United Nations system."

20. In response to the recommendations of the Working Group of the Whole to Evaluate the Implementation of the Recommendations of the Second United Nations Conference on the Exploration and Peaceful Uses of Outer Space, as contained in its report on the work of its sixth session, held in 1992 (A/AC.105/513, annex II, paras. 6-20), which were endorsed by the General Assembly in paragraph 11 of resolution 47/67, the Subcommittee had before it the following documents: a report on international cooperation in the peaceful uses of outer space: activities of Member States (A/AC.105/523), containing information submitted by Member States in response to paragraph 10 of the report of the Working Group; a review of the applications of space

technology on remote and rural communications (A/AC.105/536), in response to paragraph 17 (ii); a study on applications of space technology to ocean resource development (A/AC.105/535), in response to paragraph 17 (iv). In addition, the Subcommittee had before it annual reports, including information in response to paragraph 11, submitted by the following international organizations: WMO (A/AC.105/537 and A/AC.105/538); ESA (A/AC.105/539); INTELSAT (A/AC.105/540); International Maritime Satellite Organization (INMARSAT) (A/AC.105/541); and ITU.

21. In accordance with paragraph 10 of General Assembly resolution 47/67, the Subcommittee reconvened the Working Group of the Whole with a view to improving the execution of activities relating to international cooperation, particularly those included in the United Nations Programme on Space Applications, and to proposing concrete steps to increase such cooperation as well as to make it more efficient. The Working Group was chaired by Mr. Muhammad Nasim Shah (Pakistan); it held ____ meetings between 18 and ____ February 1993 and adopted its report (A/AC.105/C.1/WG.6/L.8) on ____ February 1993.

22. Having considered the report of the Working Group of the Whole, the Subcommittee decided at its ____th meeting, on ____ February 1993, to adopt that report, as contained in annex II to the present report, on the understanding that the recommendations contained therein would be carried out in accordance with paragraph 9 of General Assembly resolution 37/90 of 10 December 1982. The Subcommittee recommended that the Working Group be reconvened next year to continue its work.

A. United Nations Programme on Space Applications

23. Regarding the expanded United Nations Programme on Space Applications, the Subcommittee had before it the report of the United Nations Expert on Space Applications (A/AC.105/533). The report was supplemented by the statement by the Expert. The Subcommittee noted that the Programme on Space Applications for 1992 had been carried out satisfactorily and commended the work accomplished by the Expert in carrying out the work programme as endorsed by the Subcommittee at its last session.

24. The Subcommittee noted with appreciation that since its last session additional contributions had been offered by various Member States and organizations and that they had been acknowledged with appreciation in paragraph 54 of the Expert's report.

25. The Subcommittee continued to express its concern over the limited financial resources available for carrying out the Programme and appealed to Member States to support the Programme through voluntary contributions. The Subcommittee felt that the limited resources of the United Nations should be focused on the highest priority activities and noted that the Programme on Space Applications was the priority activity of the Office for Outer Space Affairs.

26. The Subcommittee noted that, in response to the report of the Subcommittee at its last session, the Committee on the Peaceful Uses of Outer Space had requested the General Assembly to make an adequate allocation for the Programme on Space Applications in order to fully implement the recommendations of UNISPACE 82. The Subcommittee noted that the Special Political Committee of the General Assembly, in considering the report of the Committee on the Peaceful Uses of Outer Space, had decided to accede to that request and that the Chairman of the Special Political Committee had conveyed that decision in a letter to the Chairman of the Fifth Committee of the General Assembly (A/C.5/47/51). On the recommendation of the Fifth Committee, the General Assembly, in resolution 47/219 of 23 December 1992, took note of the letter from the Chairman of the Special Political Committee. The Subcommittee expressed its hope that those recommendations and actions would be reflected in an adequate allocation for the Programme on Space Applications in the 1994-1995 budget.

1. 1992-1993

(a) United Nations training courses, workshops, conferences and symposia

27. With regard to the activities of the programme carried out in 1992, the Subcommittee expressed its appreciation to:

(a) The Governments of Ecuador and Japan for co-sponsoring the United Nations Workshop on Space Technology for Resource Development and Environmental Management hosted by the Centro de Levantamientos Integrados de Recursos Naturales por Sensores Remotos (CLIRSEN) in Quito from 9 to 13 March 1992;

(b) The Government of Sweden, represented by the Swedish Agency for International Technical and Economic Cooperation (BITS), for co-sponsoring the second United Nations Training Course in Remote Sensing Education for Educators hosted by Stockholm University and the Swedish Space Corporation Satellitbild and held in Stockholm and Kiruna from 11 May to 1 June 1992;

(c) The Government of the United States, represented by NASA, the National Oceanic and Atmospheric Administration (NOAA), the United States Geological Survey and the Consortium for International Earth Science Information Network, for co-sponsoring the United Nations/United States International Conference on Satellite Remote Sensing for Resource Management, Environmental Assessment and Global Change Studies: Needs and Applications of Developing Countries held in Boulder, Colorado, from 17 to 20 August 1992;

(d) The Government of Germany as well as the Carl Duisberg Gesellschaft for co-sponsoring the fourth United Nations International Training Course on Remote Sensing Applications to Geological Science hosted by the GeoResearch Centre, Potsdam, and the Free University of Berlin from 28 September to 16 October 1992;

(e) ESA for co-sponsoring the Regional Training Course on the use of Remote Sensing Systems in Hydrological and Agrometeorological Applications hosted by the Regional Centre for Services in Surveying, Mapping and Remote Sensing (RCSSMRS), Nairobi, from 12 to 30 October 1992;

(f) The Governments of Costa Rica and Colombia as well as ESA and the Planetary Society for co-sponsoring the second United Nations/ESA/Planetary Society Workshop on Basic Space Science hosted by the University of Costa Rica, San José, and the International Centre for Physics (CIF) and the University of the Andes, Santa Fe de Bogotá, and held from 2 to 7 November 1992 in San José and from 9 to 13 November 1992 in Santa Fe de Bogotá;

(g) The Government of the Republic of Korea for co-sponsoring and hosting the United Nations Workshop on Space Communications for Development, held in Seoul from 24 to 28 November 1992.

28. The Subcommittee took note of the status of the United Nations workshops, training courses and conferences being held in 1993, which included the following activities, as described in paragraph 42 of the Expert's report:

(a) A United Nations/ESA Training Course for African Francophone Countries on Applications of the European Remote Sensing Satellite (ERS-1) for Natural Resources, Renewable Energy and Environment to be organized in cooperation with the Department of Economic and Social Development and held at the European Space Research Institute (ESRIN) in Frascati, Italy, from 19 to 30 April 1993;

(b) The Third United Nations/Sweden Training Course on Remote Sensing Education for Educators, to be organized in cooperation with the Government of Sweden and held in Stockholm and Kiruna from 3 May to 4 June 1993;

(c) A United Nations Workshop on Space Communications for Development for the benefit of Member States of the Mediterranean and adjacent areas, to be organized in cooperation with the Government of Greece and held in Athens from 10 to 12 May 1993;

(d) A United Nations Regional Conference on Space Science Technology for Sustainable Development for the benefit of countries of the region of the Economic and Social Commission for Asia and the Pacific (ESCAP), to be organized in cooperation with the Government of Indonesia and held in Bandung, from 17 to 21 May 1993;

(e) A United Nations/Office of the United Nations Disaster Relief Coordinator (UNDRO)/ESA Workshop on Applications of Space Technology to combat Natural Disasters, for the benefit of Member States in the region of the Economic Commission for Latin America and the Caribbean (ECLAC), to be organized in cooperation with the Government of Mexico in September 1993;

(f) A United Nations Regional Conference on Africa's Environmental and Natural Resources Information and Management Needs, to be organized in cooperation with the Government of Senegal in October 1993;

(g) A United Nations/IAF/ESA Symposium on Organizing Space Activities in Developing Countries: Resources and Mechanisms, to be organized in cooperation with the Government of Austria and IAF and held in Graz from 18 to 22 October 1993;

(h) A United Nations Workshop on the Use of Space Techniques for Monitoring and Control of Desert Environments, to be organized for the benefit of Member States in the region of the Economic and Social Commission for West Asia (ESCWA) and held in November 1993;

(i) A United Nations Workshop on Basic Space Science, to be organized for the benefit of Member States in Africa in November 1993.

(b) Long-term fellowships for in-depth training

29. The Subcommittee expressed appreciation to the Governments of Brazil and China as well as to ESA for having offered training fellowships in various areas relating to space activities for the period 1991-1992. The Subcommittee once again expressed appreciation to those Governments and agencies for the renewal of fellowships for the period 1992-1993. The Status of the 1992-1993 fellowships and the countries whose candidates have received fellowships are indicated in annex II to the Expert's report (A/AC.105/533).

30. The Subcommittee noted that it was important to increase the opportunities for in-depth education in all areas of space science, technology and applications projects through long-term fellowships.

(c) Technical advisory services

31. The Subcommittee took note of the technical advisory services being provided by the Office for Outer Space Affairs in support of regional space applications projects, as indicated in the report of the Expert:

(a) Collaboration with ESA on a survey and selection of projects to receive remote sensing data made available by ESA to African countries covered by ESA's two remote sensing ground receiving stations at Maspalomas, Spain, and Fucino, Italy;

(b) Assistance to the Government of Ecuador in promoting regional operation, administration and funding of the remote sensing receiving station at Cotopaxi, Ecuador;

(c) Assistance to the Government of Chile in the preparation of the Second Space Conference of the Americas;

(d) Cooperation with the Government of Nigeria in a seminar on space science and technology;

(e) Cooperation with the Government of the Islamic Republic of Iran in a seminar on remote sensing of the environment and space applications;

(f) Assistance to the Government of the Republic of Korea in the establishment of the Asia-Pacific Satellite Communications Conference;

(g) Cooperation with the Indian Ocean Marine Affairs Cooperation (IOMAC) programme in the development of remote sensing projects for coastal zone management and monitoring.

(d) Promotion of greater cooperation in space science and technology

32. The Subcommittee noted that the United Nations was collaborating with international professional bodies in the space community to promote exchange of experience on space activities. In 1992, the Programme on Space Applications co-sponsored the following activities:

(a) The United Nations and ISPRS collaborated in a joint United Nations/ISPRS Workshop on Remote Sensing Data Analysis Methods and Applications, held in Washington, D.C., on 6 and 7 August 1992 during the ISPRS Congress for the benefit of scientists from developing countries;

(b) The United Nations co-sponsored a United Nations/IAF/COSPAR/American Institute of Aeronautics and Astronautics (AIAA) Symposium on Space Technology in Developing Countries - Making it Happen, held in Washington, D.C. from 28 to 30 August 1992 in conjunction with the COSPAR/IAF World Space Congress.

2. 1994

(a) United Nations training courses, workshops and symposia

33. The Subcommittee recommended the approval of the following programme of training courses, workshops and symposia proposed for 1994:

(a) The Fifth United Nations Training Course on Remote Sensing Applications to Geological Sciences, to be organized in cooperation with the Government of Germany and the Carl Duisberg Gesellschaft and held in the ESCAP region in early 1994;

(b) A United Nations International Workshop on Spin-off Benefits of Space Technology;

(c) The Fourth United Nations/Sweden International Training Course on Remote Sensing Education for Educators, to be held in Stockholm and Kiruna, Sweden;

(d) A United Nations International Training Course on Communications Technology for Development;

(e) A United Nations Microwave Remote Sensing Training Course for the benefit of ESCAP and ESCWA Member States;

(f) A United Nations/UNDRO Regional Workshop on Space Technology to Combat Natural Disasters for the benefit of Member States in the ECA region;

(g) A United Nations Regional Training Course on Remote Sensing Applications for the benefit of ECLAC Member States;

(h) A United Nations Workshop on Basic Space Science in Development Programmes for the benefit of ESCAP and ESCWA Member States;

(i) A United Nations International Workshop on the Development and Design of Small Experimental Payloads; and

(j) A United Nations/IAF Symposium on Space Technology in Developing Countries.

B. International space information service

34. The Subcommittee noted with satisfaction that the Office for Outer Space Affairs was in the process of developing an international space information system, including both information within the United Nations system and access to external databases.

35. The Subcommittee noted with satisfaction the publication of documents entitled "Seminars of the United Nations Programme on Space Applications: Selected Papers on Remote Sensing, Satellite Communications and Space Science" (A/AC.105/532); "Directory of Information Systems on Space Science Technology" (A/AC.105/517); and "Space Activities of the United Nations and International Organizations" (A/AC.105/521). It also noted that the Secretariat was preparing an updated edition of the Directory on Education, Training, Research, and Fellowship Opportunities in Space Science and Technology and its Applications (A/AC.105/432).

C. Reports

36. The Subcommittee took note with appreciation of the reports submitted to it by Member States and international organizations in response to the recommendations of the Working Group of the Whole in its report on the work of its sixth session (A/AC.105/513, annex II, paras. 6-20). It also noted the technical studies prepared by the Secretariat on space applications for ocean resource development (A/AC.105/535) and on applications of space technology for remote and rural communications and broadcasting (A/AC.105/536).

D. Coordination of space activities within the United Nations system and inter-agency cooperation

37. The Subcommittee noted that the General Assembly, in resolution 47/67, had reaffirmed its request that all organs, organizations and bodies of the United Nations system and other intergovernmental organizations working in the

field of outer space or on space-related matters should cooperate in the implementation of the recommendations of UNISPACE 82.

38. The Subcommittee noted with satisfaction that the Inter-Agency Meeting on Outer Space Activities had been convened by the Administrative Committee on Coordination (ACC) at UNESCO headquarters in Paris, from 5 to 7 October 1992 and that its report (ACC/1992/28) was before the Subcommittee. The Subcommittee took note of the information provided on the progress achieved in coordinating the space activities of the organizations of the United Nations system and expressed its appreciation for the report of the Secretary-General entitled "Coordination of outer space activities within the United Nations system: programmes of work for 1993 and 1994 and future years" (A/AC.105/524).

39. The Subcommittee continued to stress the necessity of ensuring continuous and effective consultations and coordination in the field of outer space activities among organizations within the United Nations system and the avoidance of duplication of activities.

E. Regional and interregional cooperation

40. The Subcommittee noted that the General Assembly, in its resolution 47/67, had reaffirmed its approval of the recommendations of UNISPACE 82 regarding the establishment and strengthening of regional mechanisms of cooperation and their promotion and creation through the United Nations system. The Subcommittee noted with satisfaction that, in carrying out various activities in the implementation of the recommendations of UNISPACE 82, the Secretariat had sought to strengthen those mechanisms.

41. The Subcommittee noted with appreciation the efforts undertaken as part of the United Nations Programme on Space Applications, in accordance with the UNISPACE 82 recommendation concerning the development of indigenous capabilities, to establish regional centres for space science and technology education in existing national or regional educational institutions in developing countries, as outlined in the report entitled "Centres for Space Science and Technology Education: Updated Project Document" (A/AC.105/534).

42. The Subcommittee noted with appreciation the offers by a number of Member States to host such regional centres and indications of support from other Member States. The Subcommittee noted that an evaluation mission concerning the establishment of such a regional centre had been undertaken to a number of potential host countries and institutions in Latin America, and that representatives from potential supporting Governments had participated in that mission. The Subcommittee noted that similar evaluation missions were being planned for other regions. The Subcommittee urged other Member States to support the establishment of the centres and requested the Office for Outer Space Affairs to make every possible effort to obtain the support of other relevant international organizations. The Subcommittee requested that it be kept informed of further developments on the subject.

43. The Subcommittee noted that the Second Space Conference of the Americas was being hosted by the Government of Chile in Santiago from 26 to 30 April 1993 and would promote cooperation in space activities primarily for the benefit of countries in the Latin American and Caribbean region. The Subcommittee also noted that the Regional Conference on Space Science and Technology for Sustainable Development, to be held in Indonesia in May 1993, and the Regional Conference on Africa's Environmental and Natural Resources Information and Management Needs, to be held in Senegal in October 1993, would promote regional cooperation for the benefit of countries in those regions.

44. The Subcommittee noted the contributions made by other international organizations towards the promotion of international cooperation in space activities: FAO was continuing its activities relating to remote sensing of renewable natural resources and environmental monitoring, including training courses and support of development projects; ITU was continuing its work in the international coordination of space communications, including providing technical assistance to developing countries; WMO was continuing international cooperative programmes using space technology, including the World Weather Watch and the Tropical Cyclone Programme; INMARSAT was continuing to develop its satellite communication system for maritime, aeronautical and land-mobile communications, including the development of small, low-cost terminals and the provision of technical assistance and training; INTELSAT was further developing its system for international satellite communications and broadcasting, including its programmes for training and technical assistance; ESA was continuing its programme of international cooperative space activities, including training programmes for the benefit of developing countries, support of the activities of the United Nations Programme on Space Applications and technical assistance projects.

45. The Subcommittee emphasized the importance of regional and international cooperation in making the benefits of space technology available to all countries, through such cooperative activities as shared payloads, dissemination of information on spin-off benefits, ensuring compatibility of space systems and providing access to launch capabilities at reasonable cost.